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Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

In the Matter Of: ) GEN Docket No. 90-314  
Amendment of the Commission's ) ET Docket No. 92-100  
Rules to Establish New Personal ) RM-7140, RM-7175, RM-7617,  
Communications Services ) RM-7618, RM-7760, RM-7782,  
 ) RM-7860, RM-7977, RM-7978,  
 ) RM-7979 & RM-7980

REPLY COMMENTS OF TELOCATOR ON 1850-1990 MHz  
PERSONAL COMMUNICATIONS SERVICES

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## SUMMARY

Telocator, the Personal Communications Industry Association, represents the full range of participants in new and existing wireless services. Telocator's members come from all sectors of the telecommunications industry, representing the paging, cellular, cable television, local and interexchange telephone, specialized mobile radio, switch manufacturing, and computer industry segments, among others. The interests of these 490 members, representing 1200 companies, span the entire gamut of existing and emerging PCS offerings.

Telocator's opening comments were distilled from consensus achieved among this diverse range of PCS proponents. As such, its comments embody the collective experience of a broad base of the telecommunications industry and provide a number of sound policy principles to guide PCS deployment in the 2 GHz band.<sup>1</sup>

In particular, Telocator's comments demonstrated that:

- Demand for PCS will require allocation of the entire 1850-1990 MHz band and any spectrum not released for immediate use should be held in reserve.
- The 1910-1930 MHz band should be allocated for unlicensed PCS devices.
- A 10 MHz allocation for wireless local loop services is unwarranted.
- The Commission should adopt a policy of not preferring or excluding any qualified applicant for a PCS license.
- National licenses and licenses based on Local Access and Transport Areas are not suitable for PCS.

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<sup>1</sup> Because the 2 GHz broadband PCS issues differ markedly from narrowband 900 MHz services, Telocator has filed separate reply comments on the narrowband aspects of the rulemaking, and herein addresses only 2 GHz broadband PCS issues.

- 10 year license terms with a renewal expectancy should be granted.
- Stringent lottery reforms, including high filing fees, firm financial commitments, and construction benchmarks, are need to combat speculation.
- A level playing field must be ensured for all new and existing PCS participants.
- Technical standards for both licensed and unlicensed devices should properly be left to industry groups for resolution.
- Relocation of existing users in the proposed unlicensed device band presents a unique problem that should be addressed by the use of an open industry consortium.

As discussed below, by incorporating these basic positions in its regulatory plan for 2 GHz services, the Commission will ensure, with full industry backing, that a diverse range of competitive PCS offerings are deployed rapidly and ubiquitously.

In addition, Telocator has addressed below several issues where continuing work has led to significant new developments. Specifically, Telocator's comments discuss:

- Advances in formulating industry technical standards for a concrete and well-defined set of new PCS offerings through the recent, Joint Experts' Meeting on common air interface standards.
- Additional refinements to Telocator's original proposal for an industry-based compensation mechanism for relocating existing users in the unlicensed band.

Telocator believes these developments illustrate the commitment and the ability of the industry to successfully and expeditiously introduce new 2 GHz personal communications services.

Accordingly, Telocator believes the Commission should hasten the arrival of needed new advanced communication tools by acting quickly on the proposals herein.

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**REPLY COMMENTS OF TELOCATOR ON 1850-1990 MHZ  
PERSONAL COMMUNICATIONS SERVICES**

Telocator, the Personal Communications Industry Association, herewith submits its reply comments in the above-captioned proceeding.<sup>2</sup> As detailed below, Telocator and its membership, representing the full breadth of the telecommunications industry, have provided the Commission with a sound and practical policy foundation for the introduction of new 2 GHz PCS systems. Telocator's proposals, and the ongoing work of industry technical fora, have shown that a broad range of competitive new PCS offerings can be implemented rapidly upon the adoption of final rules for 2 GHz PCS. Telocator thus believes the Commission should act expeditiously in this regard to bring needed advanced telecommunications tools to the American public.

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<sup>2</sup> Amendment of the Commission's Rules to Establish New Personal Communications Services, FCC 92-333 (August 14, 1992) ["Notice"].

**I. "PERSONAL COMMUNICATIONS SERVICES" DEFINES A WELL KNOWN SET OF PROPOSED OFFERINGS**

In the opening comments, there are suggestions that PCS is too amorphous and ill-defined to justify spectrum allocations. In the past year, PCS has evolved into a concrete and well-defined set of existing and proposed services. In anticipation of the Commission's en banc hearing on PCS last December, for example, Telocator's PCS section developed a document reflecting industry consensus on the features and requirements of a number of types of PCS offerings.

Subsequently, the Telocator PCS Service Descriptions document has been translated into a detailed Standards Requirements Document ("SRD").<sup>3</sup> Service descriptions are now being rendered into technical standards for new PCS offerings. The SRD, for example, specifically defines both mandatory and desirable capabilities and attributes of classes of new services, both from a user's and a service provider's perspective. The document is intended to facilitate the process of standardizing technical requirements for particular services and, in fact, has been submitted to various U.S. standards organizations. Similarly, TIA's TR45.4 subcommittee is also expected to finalize its standardization of service descriptions early in 1993, and ECSA's Committee T1P1 currently has a technical report, System

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<sup>3</sup> Attached as Appendix A.

and Service Objectives for Low-Power Wireless Access to Personal Communications Services, out for ballot.

With the recent Joint Expert's Meeting ("JEM"), co-sponsored by Telocator, T1, and TR45, the industry is also bringing parallel efforts together in order to achieve unified support for technical PCS standards. The various industry standards organizations represented at JEM adopted a "platform" approach of technical standards, creating a basic set of mandatory features, but allowing evolutionary and specialized applications as extensions of that platform. This approach permits individual licensees to provide innovative and diverse services while retaining compatibility of core functions.

The volume of comments filed by a wide range of telecommunications entities advocating deployment of specific PCS offerings, as well as the wealth of experience gained by the more than 150 experimental PCS licenses which have been granted to date, provide further evidence that providers and the marketplace have no confusion over what PCS means. Moreover, 2 GHz PCS offerings exist as more than just words on paper. Not only is PCS equipment available today, but service is being provided on an experimental basis in various markets in the United States and is commercially available in certain European and Pacific Rim countries. The fundamental impediment to widescale availability of new PCS is not any vagueness or confusion over what the services are; general availability awaits a conclusion of the present proceeding and the licensing of these services.



PCS, of course, is a broad range of services, as reflected by the Telocator PCS Service Descriptions. Accordingly, the term "PCS" must be flexible and continue to allow for innovation and diversity. As the Commission itself has observed,<sup>4</sup> the cellular industry experience demonstrated that too rigidly and inflexibly setting initial service definitions and descriptions for a new generation of wireless technology "impeded both the development of new services and the accommodation of the large number of additional subscribers," resulting in a need to revisit and modify the regulatory structure to introduce the needed flexibility.<sup>5</sup> There is no reason to make the same mistake with new PCS services.

Traditional paging services offer another example of the public benefit of flexibly defined services. Technology and marketplace demands have transformed what started as a simple, tone alert device into a diverse market in which tone-only, voice, numeric and alpha-numeric messaging are today available to paging subscribers. These multiple attributes of paging service, each with many possible dimensions, create a dizzying number of possible variations of service. While this arguably makes paging a service that lacks clear definition, it is precisely this robustness that has enabled the paging marketplace to continue to grow and evolve in order to remain responsive to public needs. The Commission must ensure that broadband PCS providers are,

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<sup>4</sup> Notice at ¶ 24.

<sup>5</sup> See GEN Docket 87-390.

similarly, enabled to meet the needs of customers as those needs and technology evolve.

In short, contrary to the suggestions of some, PCS is certainly not a vague or elusive concept.<sup>6</sup> Such an assessment fails to recognize or credit the consensus standards work that has occurred in the past year, the experience of domestic technical and market trials, commercial service experience overseas, and the proven public benefit of appropriately flexible service definitions in FCC regulations.

**II. THE COMMENTS REFLECT CONSENSUS THAT THE ENTIRE 1850-1990 MHZ BAND SHOULD BE ALLOCATED FOR PERSONAL COMMUNICATIONS SERVICES**

Despite differing band plans, commenters have agreed that the projected needs of PCS will require allocation of the entire 1850-1990 MHz band. Accordingly, any spectrum in the 1850-1990 MHz band not immediately made available for either licensed or unlicensed PCS should be held in reserve to meet future PCS needs.<sup>7</sup> A spectrum reserve is necessary to meet future PCS

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<sup>6</sup> Charles River Associates, An Economic Analysis of Entry by Cellular Operators into Personal Communications Services, pp. 11-16. (Included as Attachment A to Comments of Cellular Telecommunications Industry Association ("CTIA")).

<sup>7</sup> Comments of Alltel Companies at 15-16 ("Alltel"); Comments of American Personal Communications at 6 ("American Personal Communications"); Comments of Ameritech at 10-11 ("Ameritech"); Comments of AMSC Subsidiary Corporation at 8 ("AMSC"); CTIA at 28-30; Comments of Comcast PCS Communications, Inc. at 20 ("Comcast"); Comments of Cox Enterprises, Inc. at 10 ("Cox"); Comments of Ericsson Corporation at 9 ("Ericsson"); Comments of McCaw Cellular Communications, Inc. at 5 ("McCaw"); Comments of PCN America, Inc. at 4 ("PCN America"); Comments of Qualcomm Inc. at 3 ("Qualcomm"); Comments of Southwestern Bell

growth needs because "[a]s the market grows, it will be inevitable that new uses and users will evolve."<sup>8</sup>

With respect to 1910-1930 MHz, there is unified support for its allocation to unlicensed PCS devices.<sup>9</sup> As explained by Ameritech, "[t]he 1910 to 1930 MHz range makes the most sense for these systems, since this spectrum is used the least by fixed microwave service operators in many areas."<sup>10</sup> Many parties supporting the allocation have suggested that additional unlicensed spectrum is necessary.<sup>11</sup>

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Corporation at 9 ("Southwestern Bell"); Comments of Telmarc Telecommunications, Inc. at 12-15 ("Telmarc"); Comments of U S West, Inc. at 10-11 ("U S West").

<sup>8</sup> Telmarc at 14.

<sup>9</sup> Comments of American Personal Communications at 6; Comments of Ameritech at 12 ("Ameritech"); AMSC at 8; Comments of Andrew Corporation at 6 ("Andrew Corporation"); Comments of Bell Atlantic Personal Communications, Inc. at 39 ("Bell Atlantic Personal Communications"); Comments of BellSouth at 24-26 ("BellSouth"); Comments of Centel Corporation at 13 ("Centel"); Comments of Domestic Automation Company at 4-6; Comments of Harris Corporation - Farinon Division at 2 ("Harris"); Comments of Hughes Network Systems, Inc. at 6 ("Hughes"); Comments of McCaw Cellular Communications, Inc. at 12-13 ("McCaw"); Comments of Omnipoint Communications, Inc. at 11-12 ("Omnipoint"); PCN America at 4; Comments of Pertel, Inc. at 2 ("Pertel").

<sup>10</sup> Ameritech at 12.

<sup>11</sup> Comments of AT&T at 14 ("AT&T"); Comments of Andrew Corporation at 6 ("Andrew Corporation"); Comments of Cincinnati Bell Telephone Company at 14-15 ("Cincinnati Bell"); Ericsson at 21; Comments of Hitachi Telecom (USA) at 6 ("Hitachi"); Comments of Knowledge Implementations at 3-4; Comments of Motorola at 9 ("Motorola"); Comments of Northern Telecom at 22 ("Northern Telecom"); Comments of Pacific Communication Sciences at 15; Comments of Rolm at 16-19 ("Rolm"); Comments of The South Carolina Telephone Association at 3; Comments of United States Telephone Association at 31 ("USTA").

Commenters also have concluded that a separate 10 MHz allocation in the 1850-1990 MHz band is not warranted for wireless local loop service.<sup>12</sup> Metrocall, for example, has pointed out that "to the extent that demand exists for wireless local access to [the] telephone company, such services can and should be offered by PCS licensees and the available spectrum should not be fragmented into service specific segments that ultimately reduce the carriers' flexibility."<sup>13</sup> Indeed, even the parties that stand to benefit from such an allocation have not affirmatively supported it.<sup>14</sup>

**III. THE INDUSTRY HAS UNIFORMLY RECOGNIZED THAT LICENSING RULES AND POLICIES FOR 2 GHz PCS SHOULD ENCOURAGE THE PARTICIPATION OF QUALIFIED APPLICANTS**

**A. There Is Broad-Based Support for Adopting Open Entry Policies That Do Not Prefer Or Exclude Any Qualified Applicant for 2 GHz PCS Licenses**

A broad cross section of filers agree with Telocator that open entry policies -- neither favoring nor discouraging any

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<sup>12</sup> American Personal Communications, cover letter at 2; Comments of Associated PCN Company at 14 ("Associated PCN"); Comcast at 16; Cox at 20-21; McCaw at 33-34; Comments of Metrocall of Delaware, Inc. at 5-6 ("Metrocall"); New York State Department of Public Service at 9-10 ("NYSDPS"); PCN America at 6-7; Comments of USTA at 8-16; Comments of Sprint at 13 ("Sprint"); Comments of Viacom International Inc. at 18 ("Viacom").

<sup>13</sup> Metrocall at 6.

<sup>14</sup> See Ameritech at 19-20; Bell Atlantic Personal Communications at 4-15; Comments of NYNEX Corporation at 8-17 ("NYNEX"); Comments of Pacific Telesis Group at 9-15 ("Pacific Telesis"); Southwestern Bell at 13-18; U.S. West at 23-35.

qualified applicant -- serve the public interest.<sup>15</sup> As BellSouth has argued, "[o]pen eligibility for licenses to provide PCS will . . . result in the widest possible array of new and hybrid services. . . . Any restriction on eligibility for PCS licenses, however, will tend to reduce the variety of PCS services that will be made available."<sup>16</sup>

The majority of commenters also support Telocator's longstanding and strong opposition to any prohibition on the participation of cellular carriers in new spectrum allocations.<sup>17</sup> Reflecting the view of many parties, the

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<sup>15</sup> BellSouth at 30-41; Centel at 14-20; Comments of Comsearch at 8 ("Comsearch"); Comments of Illinois Commerce Commission at 9-10; McCaw at 24-34; Metrocall at 6; Comments of Southern New England Telecommunications at 3 ("Southern New England Telecommunications"); Southwestern Bell at 13-18; U S West at 22.

<sup>16</sup> BellSouth at 41.

<sup>17</sup> Alltel at 5-7; Ameritech at 14-15; Comments of Anchorage Telephone Utility at 5; Bell Atlantic Personal Communications at 5-12; BellSouth at 43-49; Comments of Cellular Communications, Inc. at 7-10 ("Cellular Communications"); Centel at 14-16; CTIA at 60-67 and Appendix B; Comments of Century Cellunet, Inc. at 2-7 ("Century Cellunet"); Comcast at 8-11; Comments of Florida Cellular RSA Limited Partnership at 9-10 ("Florida Cellular"); Comments of Freeman Engineering Associates, Inc. at 11; Comments of GTE Corporation at 36-42 ("GTE"); Comments of Harrisonville Telephone Company at 2-4; Hughes at 7-8; Comments of Interdigital Communications Corporation at 12-15 ("Interdigital"); Comments of Kerrville Telephone Company at 1-9; Comments of The Lincoln Telephone and Telegraph Company at 8-9 ("Lincoln Telephone"); McCaw at 24-33; Comments of Point Communications Company at 3 ("Point Communications"); Comments of Puerto Rico Telephone Company at 2-3; Comments of Rochester Telephone Corporation at 7-10 ("Rochester Telephone"); Comments of Rock Hill Telephone Company, Fort Hill Telephone Company, and Lancaster Telephone Company at 11 ("Rock Hill Telephone et al."); Comments of Roseville Telephone Company at 10; Comments of Rural Independent Coalition at 8-23 ("Rural Independent Coalition"); Southern New England Telecommunications at 7-8; Southwestern Bell

Utilities Telecommunications Council reasoned that "[p]ermitting PCS licensing of incumbent cellular carriers would allow these carriers to make use of economies of scale . . . to the benefit of the consumer public."<sup>18</sup> Southern New England Telecommunications similarly reasoned that cellular entry would serve "[t]he Commission's purpose . . . to bring PCS to the public expeditiously and with the least amount of delay," since cellular carriers can employ existing infrastructure to speed service to the public.<sup>19</sup> Parties also noted that anti-competitive concerns about cellular participation are conjectural, concluding, for example, "[t]he benefits of cellular licensee participation in PCS are far too great to be outweighed by speculative threats to competition."<sup>20</sup>

As a final matter, there is a general agreement that no set-asides for particular types of applicants are warranted.<sup>21</sup> In particular, Telocator concurs with the Department of Justice,

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13-15; Comments of Telephone & Data Systems, Inc. at 19-22 ("Telephone & Data"); Comments of United States Small Business Administration at 21-23 ("Small Business Administration"); U S West at 22-23; Comments of Utilities Telecommunications Council at 33 ("UTC"); Comments of Vanguard Cellular Systems, Inc. at 16 ("Vanguard").

<sup>18</sup> UTC at 33-34.

<sup>19</sup> Southern New England Telecommunications at 5.

<sup>20</sup> Bell Atlantic Personal Communications at 5.

<sup>21</sup> Comments of Adelphia Communications Corporation and NewChannels Corporation at 12 ("Adelphia Communications"); BellSouth at 24; NYSDPS at 9-10; Comments of Pagemart, Inc. at 12. See Ameritech at 13-16; Bell Atlantic Communications at 4-15; NYNEX at 8-17; Pacific Telesis at 9-15; Southwestern Bell at 13-18; USTA at 7-16; U.S. West at 22.

which states that it does not believe "[LECs] should be accorded preferential treatment affecting either their ability to acquire a license or the amount of spectrum they may obtain."<sup>22</sup> At the same time, however, LECs should not be excluded from participating in new 2 GHz spectrum opportunities on the same basis as any other applicant.

**B. The Majority of Comments Suggest That National PCS Service Areas and LATA-Based Service Areas Are Not In the Public Interest**

A wide ranging group of commenters have agreed with Telocator's position that nationwide service areas and service areas based on LATAs are inconsistent with the Commission's general approach of promoting diversity and reliance upon the marketplace.<sup>23</sup> Commenters noted that nationwide service areas are not appropriate for PCS,<sup>24</sup> stating, for example, that "[s]ince PCS by its very nature must be local, it would be irrational, as well as an abrogation of the Commission's

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<sup>22</sup> DOJ at 30.

<sup>23</sup> Adelphia Communications at 5; American Personal Communications at 25-28; Comments of AT&T at 12; CTIA at 44-48; Centel at 11-12; Comcast at 24-25; Comments of Corporate Technology Partners at 19 ("Corporate Technology Partners"); Cox at 11; Florida Cellular at 7; Lincoln Telephone at 10; Metrocall at 7-9; Comments of National Telephone Cooperative Association at 1-2 ("NTCA"); NYNEX at 21-22; Omnipoint at 16; Comments of Pass Word, Inc. at 4; Point Communications at 2; Qualcomm at 3-4; Rochester Telephone at 18; Comments of Small Rural Virginia Telcos at 2 ("Small Rural Virginia Telcos"); Southwestern Bell at 20-24; Sprint at 5-8; Vanguard at 13; Viacom at 17.

<sup>24</sup> BellSouth at 36-39; CTIA at 48-49; Comcast at 24-25; Cox at 11; McCaw at 18-19; Metrocall at 7-9; Southern New England Telecommunications at 7-8.

responsibilities, to license the service on a nationwide basis."<sup>25</sup> Furthermore, as AT&T noted, nationwide licensing "[w]ould reduce the number of PCS licensees and thereby arguably reduce not only competition, but also the technical experimentation and diversity of service offerings . . . ."<sup>26</sup>

The opening comments in this proceeding also concur with Telocator's assessment that basing mobile service areas on landline LATAs is inappropriate.<sup>27</sup> Like many commenters, AMTA echoed Telocator's argument that "the 194 telephone LATAs were established for a purpose totally unrelated to mobile communications and, indeed, have often been an impediment to coverage of natural mobile geographic areas."<sup>28</sup> Under the circumstances, Telocator submits that national and LATA-based service areas would not serve the public interest.

#### **C. Commenters Favor 10 Year License Terms for PCS**

Commenters universally supported the Notice's proposed 10 year license term for PCS services in conjunction with a renewal expectancy.<sup>29</sup> A 10 year license term enables new entrants to

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<sup>25</sup> BellSouth at 39.

<sup>26</sup> AT&T at 12.

<sup>27</sup> Comments of American Mobile Telecommunications Association, Inc. at 8-9; CTIA at 44-48; Cox at 11; Metrocall at 7-9; Omnipoint at 16.

<sup>28</sup> AMTA at 8-9.

<sup>29</sup> Associated PCN at 8; CTIA at 69; Centel at 23; McCaw at 21; NTCA at 9; UTC at 35; Vanguard at 24-26.



establish economically viable systems and to justify PCS infrastructure investment.<sup>30</sup> As Associated PCN ably explained, "a long license term and a reasonable renewal expectancy are needed in order to attract the huge investment which PCS will require, particularly in view of the fact that PCS is a fledgling business with an unknown economic outlook."<sup>31</sup> Furthermore, as Metrocall noted, "a ten year license would be consistent with other mobile services, including cellular."<sup>32</sup>

**D. Commenters Support Stringent Lottery Reforms To Deter Speculation for 2 GHz PCS Licenses**

The opening comments recognize that the Commission must adopt stringent antispeculation safeguards for PCS licensing.<sup>33</sup> Time Warner, for example, notes that "the Commission has a legitimate desire to minimize the number of applicants filed by speculators. . . . [T]his concern can be best addressed by

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<sup>30</sup> Adelphia Communications at 7; Metrocall at 9.

<sup>31</sup> Associated PCN at 8.

<sup>32</sup> Metrocall at 9.

<sup>33</sup> Adelphia Communications at 13-14; AT&T at 36-39; Associated PCN at 16-19; Centel at 4 and 21-22; Comments of Cincinnati Bell Telephone Company at 16-20 ("Cincinnati Bell"); Comments of Express Communications, Inc. 12-13 ("Express Communications"); McCaw at 37-39; Metrocall at 9-11; Comments of Motorola, Inc. at 44 ("Motorola"); Qualcomm at 5; Rural Cellular at 2; Comments of Teco Energy, Inc. at 2; Telephone & Data at 26-30; Comments of Time Warner Telecommunications at 19-23 ("Time Warner"); Comments of United States Telephone Association at 27-28 ("USTA"); U S WEST at 15-18.

tightening the applicant qualifications or 'front end' requirements."<sup>34</sup>

Specifically, commenters recommended firm financial commitments as a way of ensuring that PCS licenses are ultimately held by those most likely to build and operate systems.<sup>35</sup> As Metrocall explained, "[d]ue to the relatively high cost of deployment of developing a micro-cellular PCS infrastructure, requiring firm financial commitments at the initial application [stage] is critical to ensuring that applicants are in a position to achieve actual deployment of PCS."<sup>36</sup> For similar reasons, commenters joined with Telocator in advocating high filing fees.<sup>37</sup>

Most parties also favored Commission mandated construction commitments and deadlines.<sup>38</sup> U S West reasoned that "[t]he imposition of deadlines for the completion of initial construction and system build-out after issuance of a construction permit would be an effective way to ensure that

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<sup>34</sup> Time Warner at 20.

<sup>35</sup> Adelphia Communications at 14; Associated PCN at 17; AT&T at 4; Centel at 22; Express Communications at 13-14; Metrocall at 10; USTA at 27-28; U S West at 16.

<sup>36</sup> Metrocall at 10.

<sup>37</sup> Adelphia at 16; Associated PCS at 17; AT&T at 5-6; Centel at 21-22; Express Communications at 12; Metrocall at 11; Motorola at 44; Pertel at 16.

<sup>38</sup> Adelphia Communications at 14; AT&T at 5-6; Associated PCN at 19-20; Centel at 21-22; Cincinnati Bell at 16-20; Comcast at 30-31; Express Communications at 14; Metrocall at 10-11; Motorola at 44; USTA at 27-28; U S WEST at 15-18.

products and services are offered to consumers as quickly as possible. This would also avoid the warehousing of spectrum."<sup>39</sup>

In light of these proposed reforms, commenters advocate allowing pre-lottery settlements with disclosure prior to the lottery process.<sup>40</sup> The comments of Time Warner are representative, stating "[b]y adopting strict 'front-end' requirements to govern applicant eligibility and qualifications, the Commission lessens the usefulness and need for restricting legitimate pre-lottery settlements . . . ."<sup>41</sup>

#### **IV. THE COMMENTS SUPPORT A REGULATORY FRAMEWORK FOR PCS THAT RELIES ON COMPETITION RATHER THAN COMPREHENSIVE REGULATION**

As the Commission acknowledged in the Notice, PCS requires flexible regulation.<sup>42</sup> Telocator has suggested that the FCC's role in PCS should be limited to licensing, enforcement, equipment certification and adoption of standards proposed by industry. In the opening round of comments, many parties concurred with this view, stating that the Commission should leave the determination of other matters to the marketplace.<sup>43</sup>

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<sup>39</sup> U S West at

<sup>40</sup> Adelphia at 16; Associated PCN at 14; Metrocall at 11; Time Warner at 23.

<sup>41</sup> Time Warner at 23.

<sup>42</sup> Notice at para. 104.

<sup>43</sup> Comments of Clear Creek Mutual Telephone Company, et al. at 10; McCaw at 39-40; Comments of National Telecommunications and Information Administration at 33-34 ("NTIA"); Northern Telecom at 26; NYSDPS at 6-8; Comments of

**A. The Commission Must Ensure That a Level Playing Field Exists for All New and Existing PCS Providers**

Commenters strongly supported Telocator's position that like services should be subject to like regulation.<sup>44</sup> As Ameritech commented, "[t]he Commission must assure that neither cellular, nor PCS, nor other wireless licensees obtain[] some competitive advantage for service substitutes because of a mismatched regulatory classification."<sup>45</sup> Similarly, commenters have agreed that PCS providers should be permitted to provide both common carrier and non-common carrier service over PCS spectrum -- the essence of Telocator's "flexible service concept."<sup>46</sup>

**B. PCS Carriers Should Have a Federally Protected Right Of Interconnection With the PSTN**

There is nearly unanimous support for the Commission's proposed interconnection rules.<sup>47</sup> Telocator, and the vast

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Personal Communications Network Services at 27; Small Business Administration at 28; Viacom at 21.

<sup>44</sup> Ameritech at 23-29; Bell Atlantic Personal Communications at 30-31; BellSouth at 69; Cellular Communications at 35-36; CTIA at 72-77; Centel at 24-26; Century Cellunet at 12-13; Cincinnati Bell at 20-21; Ericsson at 27; Florida Cellular at 14; GTE at 49-55; McCaw at 44-45; NRTA at 16-28; NTIA at 39-40; Pacific Telesis at 43; Rural Cellular at 1; Southern New England Telecommunications at 8-9; Southwestern Bell at 27; Sprint at 18-19; USTA at 35; Vanguard at 26-27.

<sup>45</sup> Ameritech at 22.

<sup>46</sup> See, e.g., Metrocall at 13.

<sup>47</sup> American Personal Communications at 52-54; Associated PCN at 20; Comments of Cablevision Systems Corporation at 8-9 ("Cablevision"); Cellular Communications at 28-29; Centel at 28-

majority of commenters, further believe that new PCS providers should have interconnection that is reasonable for the particular PCS system and "no less favorable than that offered by the LEC to any other customer or carrier."<sup>48</sup> One commenter voiced this concern by stating: "The LEC must offer not only non-discriminatory facilities, but also interconnection that is functionally and economically non-discriminatory [as well]."<sup>49</sup>

**C. The Record In This Proceeding Indicates That Technical Standards for PCS Should Be Left to Industry Standards Groups**

The opening comments in this proceeding demonstrate that the industry is willing and able to develop technical standards for PCS through collaborative efforts.<sup>50</sup> In fact, Telocator and the

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30; Comcast at 36-38; Comments of Concord Telephone Company at 5; Corporate Technology Partners at 25-26; Fleet Call at 13-14; Florida Cellular at 12; Comments of MCI Telecommunications Corporation at 20-22 ("MCI"); Comments of the Manager of the National Communications System at 5; McCaw at 40-42; Metrocall at 13; Comments of National Association of Business and Educational Radio, Inc. at 5-6; NYSDPS at 15-16; Northern Telecom at 27; Pacific Telesis at 45; Pertel at 17; Comments of Pinon Communications, Inc. at 3; Comments of Powerspectrum, Inc. at 8 ("Powerspectrum"); Rochester Telephone at 28-30; Sprint at 20; Telephone & Data at 26; Teleport at 9-10; Comments of Tel/Logic, Inc. at 16; Time Warner at 13-15; Department of Justice at 30-32; Small Business Administration at 28; UTC at 39-40.

<sup>48</sup> Notice at ¶ 99.

<sup>49</sup> Teleport at 9-10.

<sup>50</sup> American Personal Communications at 61; BellSouth at 27-29; Cablevision at 16-17; Centel 30-31; Comcast at 38-40; GTE at 61; Hughes at 9; Metrocall at 16; Nynex at 30-31; Powerspectrum at 9; Qualcomm at 6; Rolm at 4 and 12-13; Southwestern Bell at 35-36; Comments of Telecommunications Industry Association, Mobile Communications Division at 5-6 ("TIA"); USTA at 36-37.

major U.S. standards organizations, including Committee T1 and TIA, have taken major steps to define and refine technical standards for PCS through, for example, the convening of a Joint Experts Meeting ("JEM") on air interface standards. Service definition and network interface standards are also being developed, and may be the subject of future JEMs.

As discussed below, these efforts extend to the full range of technical issues under deliberation by the Commission. Various organizations are examining, for example, interoperability and intersystem roaming, PCS to fixed microwave interference issues, and height and power regulations. In view of the significant industry progress on these fronts, Telocator believes an FCC-mandated technical advisory committee would be unnecessary.

**1. Interoperability and intersystem roaming standards should not be mandated at this time**

Commenters agreed with Telocator that interoperability and intersystem roaming, while clearly desirable, should not be mandated by the Commission at this time.<sup>51</sup> The industry should be permitted to pursue such standards as PCS technology matures. Pacific Telesis has argued that "[t]he establishment of roaming capabilities is in every operator's interest, but the means to accomplish that end must remain flexible . . . ."<sup>52</sup>

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<sup>51</sup> See, e.g., American Personal Communications at 61-62; McCaw at 40-42; Pacific Telesis at 47.

<sup>52</sup> Pacific Telesis at 47.

In fact, the Joint Experts Meeting on Personal Communications Air Interface technology recently reached a number of significant conclusions concerning the number, type, and development of air interface standards.<sup>53</sup> Specifically, the JEM found that:

- A single air interface standard for all voice and low/medium speed data applications is technically feasible across the licensed and unlicensed bands for office, residential, pedestrian, and fixed local loop PCS.
- The number of standardized air interfaces must be kept to a minimum.
- A flexible "core" air interface standard should be developed, along with small "delta" additions for specific applications.
- A spectral etiquette for the unlicensed bands must be harmonized with air interfaces.
- Different air interfaces will probably be required for both the vehicular environment and wideband data applications.
- Air interface standards should be substantially complete by the end of 1993.

The work of this group of technical experts demonstrates the industry's ability and commitment to developing the technical standards necessary to make the implementation of PCS a success.

**2. TSB10-E is an appropriate starting point for addressing interference protection for fixed microwave systems**

Although differing somewhat on what changes are required, the industry -- including both new entrants and existing users -- virtually uniformly agrees that TSB10-E is an appropriate

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<sup>53</sup> Attached as Appendix B.

starting point for addressing interference protection for fixed microwave systems.<sup>54</sup> As the Public Safety Microwave Committee has recognized, "[w]hile the TSB10-E standard was designed for microwave-to-microwave interference protection, it provides a valid starting point for PCS-microwave interference analysis."<sup>55</sup>

Telocator, with the technical support of a number of commenters, believes that the TSB10-E standards are too conservative. In this regard, Telocator has supported EIA/TIA revisions to TSB10-E intended to emphasize "availability" rather than "fade margin."<sup>56</sup> In addition, Telocator believes that standards imposed by Bulletin 10E are too stringent when path lengths are shorter than 25 miles, since reliability increases as distance decreases, and a "very short haul" classification should be added. Without these types of changes to Bulletin 10E, it is unlikely that any sharing proposals will function to allow immediate deployment of PCS.

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<sup>54</sup> Comments of American Gas Association at 2; Comments of American Petroleum Institute at 13; Comments of Association of American Railroads at 2; Comsearch at 10-11; Corporate Technology Partners at 6-7; Harris at 3; Comments of LCC Incorporated at 3 ("LCC"); Comments of Matsushita Communications Industrial Corporation of America at 3 ("Matsushita"); Metrocall at 17; Comments of Public Safety Microwave Committee at 3.

<sup>55</sup> Public Safety Microwave Committee at 3.

<sup>56</sup> American Personal Communications at Attachment E; Bell Atlantic at 45-48; Comsearch at 10-11; LCC at 3; PCN America at 8-10; Metrocall at 17; Motorola at 33-38.



**3. Standards bodies' RF exposure guidelines should serve as the only basis for PCS power and height limitations**

Telocator has recommended, and commenters have agreed, that power and height requirements should be based upon a blanket limitation which meets RF health hazard requirements, but allows for maximum flexibility of service requirements in the 1850-1990 MHz band.<sup>57</sup> As Time Warner has explained, "PCS licensees must be given the technical flexibility to commence operations in a macrocell configuration before evolving to the expected microcell PCS layout."<sup>58</sup> This technical flexibility will allow PCS to compete effectively with existing mobile services, despite capital-intensive infrastructure requirements and strict construction and operational benchmarks.<sup>59</sup>

**4. An FCC-mandated Technical Advisory Committee is unnecessary**

The rapid progress of the industry in evolving technical PCS standards have led most commenters to agree that a Commission-mandated Technical Advisory Committee is unnecessary at this time.<sup>60</sup> For example, Sprint commented that "the ongoing PCS -

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<sup>57</sup> American Personal Communications at 57-58; Metrocall at 18; Time Warner at 12-13.

<sup>58</sup> Time Warner at 13.

<sup>59</sup> See id.

<sup>60</sup> American Personal Communications at 61; Comcast at 38-40; McCaw at 39-40; Northern Telecom at 33; Qualcomm at 6; Sprint at A1.